RE: A Question on the UEC Permit

David Murry to: Jose Torres 09/07/2012 04:48 PM

Cc: Stacey Dwyer, Philip Dellinger, Ray Leissner, Lorrie Council , Charles Maguire

From: David Murry <david.murry@tceq.texas.gov>
To: Jose Torres/R6/USEPA/US@EPA
Cc: Stacey Dwyer/R6/USEPA/US@EPA, Philip Dellinger/R6/USEPA/US@EPA, Ray Leissner/R6/USEPA/US@EPA, Lorrie Council <lorrie.council@tceq.texas.gov>, Charles Maguire <charles.maguire@tceq.texas.gov>

Jose,

Good morning. Hope all is well with you.

Class III permittees are required to establish upper control limits for the designated excursion parameters, which in this case are chlorides and conductivity. These parameters are used to determine if there is an excursion. A permittee is not required to establish UCLs for uranium and radium-226 (unless they are designated excursion parameters). Once an excursion has been verified, the permittee is required to analyze samples for uranium and radium-226 as a precaution.

Chlorides and conductivity are two parameters often used for excursion detection because they are conservative. That is to say, their concentration or activity in the groundwater is not affected by such processes as adsorption on clays or by chemical reduction. Therefore, chloride ions, for example, will move as fast as the groundwater velocity. If there is an excursion, these parameters are the first that will be seen. Uranium and radium, however, are affected by the presence of clay and chemical conditions of the groundwater. Because of this, they travel slower that the groundwater velocity.

If not adequately addressed, an excursion of mining fluids could migrate offsite. Monitoring for radium-226 and uranium during the remedial action for an excursion provides an indication of the effectiveness of the remedial action. Non-deteiction of these constituents or no upward trend in the concentration in uranium or in the activity of radium during remedial action for an excursion is an indication that the remedial action is containing the excursion.

I see what you mean by not having an established UCL for uranium and radium-226, as they may be present in the groundwater naturally. However, what we are looking for is a change in the trends of these parameters. During remedial action for an excursion the additional monitoring requirements for these parameters are monitored as an additional safeguard.

David

From: Jose Torres [mailto:Torres.Jose@epamail.epa.gov]
Sent: Thursday, September 06, 2012 10:40 AM
To: David Murry
Cc: Stacey Dwyer; Philip Dellinger; Ray Leissner
Subject: A Question on the UEC Permit

Good morning Mr. Dave:

While attempting to learn about the allowed Upper Control Limits (UCLs) in the captioned, I came across provisions V.E.1 and V.E.2 as shown below. I could see that the UCLs for Chlorides and Conductivity are defined as the maximum determined values plus 25% in permit provision V.E.1.

However, provision V.E.2 in the subject permit does not appear to explicitly provide values for the UCLs for uranium and radium226. I went to provision V.G.2, Excursions (see below), hoping to find UCL values for these constituents, but did not see any.

I would appreciate it if you could please clarify this point of the UCLs for uranium and radium226 in this permit, since I seem to have somehow missed them. Your feedback will be greatly appreciated.

I look forward to hearing from you. Regards,

José Eduardo Torres - 6WQ-SG
Ground Water/UIC Section
EPA, Region 6
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E. Monitoring Parameter Upper Limits

1. Chloride, conductivity, and total dissolved solids shall be used a
in monitoring for excursions of mining solutions from each proc
limit concentrations that indicate the presence of an excursion sh
the production zone by adding 25% to the maximum values
sampling of the production zone wells for each production area

2. In the event of an excursion, as defined in provision V.G.2. of t
TAC §331.2, monitoring for uranium and radium^{226} shall be requ
analysis for uranium and radium^{226} shall be in accordance with
this permit.

2. Excursions

a. An excursion (defined by 30 TAC § 331.2 as the movement of m solutions into a designated monitor well) is indicated by the sa concentration of any control parameter provided in Section V.E.1. permit being equal to or above the upper limit established for the appl PAA. Within two days of detecting an apparent excursion, the per shall repeat the sampling and complete a verifying analysis of the sa taken from each apparently affected well in accordance with 30 §331.105(3).

b. If the verifying analysis confirms the existence of an excursion, the per shall notify the Field Operations Division, Region 14 – Corpus C Office, by the next working day by telephone and by letter postm within 48 hours of identification of the excursion. The notification identify the affected monitor well and the control parameter concentra

c. While mining solutions are present in a designated monitor wel permittee shall conduct sampling and analysis of each affected we frequency of at least two times per week in accordance with 30 §331.105(4).

d. Reporting shall be monthly according to 30 TAC §331.85(f) (by the s day after each sample is taken). Parameters analyzed and reported d periods of excursions shall consist of the control parameters specif Provision V.E.1 of this permit plus uranium and radium^{226} as specif Provision V.E.2. of this permit.